



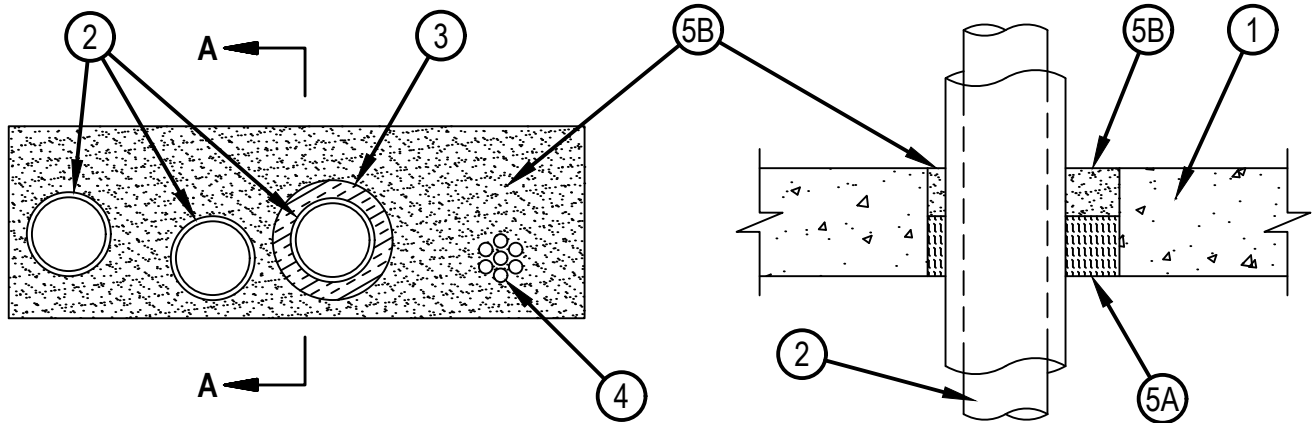
Classified by
Underwriters Laboratories, Inc.
to CAN/ULC-S115

System No. C-AJ-8249

F Rating - 2 Hr
T Rating - 0 Hr
FH Rating - 0 Hr
FTH Rating - 0 Hr



CAJ8249



SECTION A-A

1. Floor or Wall Assembly — Min 114 mm (4-1/2 in.) thick reinforced lightweight or normal weight (1600 -2400 kg/m³ or 100-150 pcf) concrete floor or min 165 mm (6-1/2 in.) reinforced lightweight or normal weight concrete wall. Wall may also be constructed of any UL Classified Concrete Blocks*. Max area of square, rectangular or circular opening is 1239 cm² (192 in²) with max dimension of 610 mm (24 in.).
See Concrete Blocks (CAZT) category in the Fire Resistance Directory for names of manufacturers.
2. Through Penetrants — One or more pipes or tubes to be installed within the opening. The total number of through-penetrants is dependent on the size of the opening and types and sizes of the penetrants. Any combination of the penetrants described below may be used provided that the following parameters relative to the annular spaces and the spacings between the pipes are maintained. The separation between cable bundle, tubes and insulated tubes shall be a min 13 mm (1/2 in.) to max 79 mm (3-1/8 in.). The annular space between penetrants and the periphery of opening shall be a min 6 mm (1/4 in.) to max 127 mm (5 in.). Pipes or tubes to be rigidly supported on both sides of floor or wall assembly. The following types and sizes of metallic pipes or tubes may be used.
 - A. Copper Tubing — Nom 76 mm (3 in.) diam (or smaller) Type L (or heavier) copper tube.
 - B. Copper Pipe — Nom 76 mm (3 in.) diam (or smaller) Regular (or heavier) copper pipe.
 - C. Steel Pipe — Nom 76 mm (3 in.) diam (or smaller) Schedule 10 (or heavier) steel pipe.
 - D. Iron Pipe — Nom 76 mm (3 in.) diam (or smaller) cast or ductile iron pipe.
 - E. Conduit — Nom 76 mm (3 in.) diam (or smaller) electric metallic tubing (EMT) or steel conduit.
 - F. Flexible Steel Conduit+ — Nom 25 mm (1 in.) diameter (or smaller) flexible steel conduit.
 See Flexible Metal Conduit (DXUZ) category in the Electrical Construction Material Directory for names of manufacturers.



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3. Tube Insulation-Plastics+++ — Nom 19 mm (3/4 in.) thick (or thinner) acrylonitrile butadiene/polyvinyl chloride (AB/PVC) flexible foam furnished in the foam of tubing.
See Plastics+++ (QMFZ2) category in the Plastics Recognized Component Directory for names of manufacturers. Any Recognized Component tube insulation material meeting the above specifications and having a UL 94 Flammability Classification of 94-5VA may be used.
4. Cables — Max 51 mm (2 in.) diam tight bundle of cables installed within the opening and rigidly supported on both sides of floor or wall assembly. The space between the cables and periphery of the opening shall range from min 51 mm (2 in.) to max 102 mm (4 in.). Any combination of the following types and sizes of metallic conductor of fiber optic cable may be used:
- A. Max 500 kcmil single copper connector power cable with thermoplastic insulation and polyvinyl chloride (PVC) jacket.
 - B. Max 300 pair No. 24 AWG copper conductor telecommunication cables with PVC insulation and jacket material.
 - C. Max 7/C copper conductor No. 12 AWG multiconductor power and control cables with PVC or cross-linked polyethylene (XLPE) insulation and PVC jacket.
 - D. Multiple fiber optical communication cables jacketed with PVC and having a max outside diam of 13 mm (1/2 in.).
 - E. Max 3/C copper conductor No. 12 AWG with bare aluminum ground, PVC insulated steel Metal-Clad cable.
5. Firestop System — The firestop system shall consist of the following:
- A. Packing Material — Min 64 mm (2-1/2 in.) thickness of min 64 kg/m³ (4 pcf) mineral wool batt insulation firmly packed into opening as a permanent form. Packing material to be recessed from top surface of floor or both surfaces of wall to accommodate the required thickness of fill material.
 - B. Fill, Void or Cavity Materials* — Sealant — Min 51 mm (2 in.) thickness of fill material applied within the annulus, flush with top surface of floor or with both surfaces of wall.
HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP 660 Firestop Foam

+ Bearing the UL Listing Mark

+++ Bearing the UL Recognized Component Marking

* Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.



Hilti Firestop Systems

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